

REMARKS

This application has been carefully reviewed in view of the above-referenced Office Action, and reconsideration is requested in view of the following remarks.

Regarding the Objections to the Specification and Drawing

Applicants appreciate the Examiner's attention to detail in noting the inadvertent intermingling of the terms "inter" and "intra", which were likely a result of dictation errors that then perpetrated to Figure 5. Clearly, the terms are intended to be used consistently with the use of such terms in connection with the various MPEG standards and other video compression standards. And, as noted by the Examiner, the labels of elements 300 and 320 of Figure 5 are interchanged. Accordingly, paragraphs 75 and 85 have been corrected to be consistent with the specification by amendment. Figure 5 has similarly been corrected to correctly and consistently label storage locations 300 and 320.

The specification has been reviewed and is believed to contain no further errors of the nature noted except for one in paragraph [0073] which has also been corrected. Applicant regrets the burden these inadvertent errors caused in examination.

Regarding the Claim Objections

Applicants further appreciate the Examiner noting the inadvertent interchange in the use of the confusingly similar terms intra and inter in the claims. The claims have been reviewed in full and corrected to resolve these issues. Applicants regret the confusion that these errors no-doubt caused.

It is noted that the Examiner has already identified these errors and appears to understand the substance of the claims and has examined them taking the correct interpretation of the claims into consideration. Hence, these claims merely formally correct the claims to place them in the condition under which the Examiner is carrying out his examination. While they represent changes in substance, they represent the claims as interpreted in the present examination.

Regarding the Zdepski Reference

The Zdepski reference of record discusses trick play techniques used in related art systems at the last paragraph of col. 3, and first paragraph of col. 4, which use look-up tables of I frames to produce fast forward and fast reverse video streams. Zdepski indicates that this process is too burdensome on the video server. Zdepski proposes solving this problem by use of a method for generating fast forward and fast reverse streams “which does not require real time processing of video data, such as index lookups”. (see col. 4., lines 36-37) Hence, it is clearly Zdepski’s intent that there be no index lookups in his process.

To generate Zdepski’s trick play, the full normal play MPEG bit stream is filtered for I frames, sequence headers and weighting matrices and these are stored in one or more new files. This filtered file (or files) is then stored in either forward or reverse order. Let us assume that it is stored in forward order as Zdepski apparently does for his illustration. At col. 8, lines 33-39, Zdepski indicates that if a fast reverse trick play is carried out, “the Verifier/Fixer 104 reverses the order of the sequence header/I frame groupings or tuples to produce a reverse play sequence.” The full operation of this “Verifier/Fixer 104” is called out in Figure 4 and apparently simply uses time order to accomplish either forward or backward motion. It appears to the undersigned that the Verifier/Fixer 104 as described in connection with Figure 4 utilizes no stored indices as required in the claims. This is wholly consistent with Zdepski’s intent since he has stated both that such index lookups are burdensome on the video server and are not required in his invention.

Regarding the Rejections under 35 U.S.C. §102

Claims 1-18 were rejected as anticipated by Zdepski. Applicants respectfully traverse the rejection as follows:

In making the anticipation rejection of independent claims 1 and 10, the Office Action combines and intermingles elements of the related art first disclosed by Zdepski in col. 4, first paragraph as having disadvantages that his invention overcomes, with other elements taken from Zdepski’s invention as disclosed. In essence, to arrive at all features of the claims, the Office Action would appear to require the use of the “index lookups” that Zdepski clearly states that his

invention avoids. Hence, the incorporation of index lookups into the Zdepski invention is contrary to Zdepski's teachings.

In order to establish that claims 1 and 10 are anticipated, each of the elements of the claim must be found in a single reference arranged in the manner claimed per MPEP 2131 ("The identical invention must be shown in as complete detail as is contained in the ... claim. ... The elements must be arranged as required by the claim ... -citations omitted). Clearly, extracting one or more claim elements from the patent's "related art" section and combining it with the Zdepski's invention in a manner clearly contradicted by Zdepski's teachings is inconsistent with the law of anticipation. Thus, the rejection made is akin to combining two references where one clearly teaches against and contradicts the other.

In the case of claim 1 and 10 and all claims dependent thereon (2-9 and 11-18), clearly call for the use of a set of stored forward indices and a set of stored reverse indices. This is counter to Zdepski's teachings and inconsistent with an anticipation rejection. Reconsideration and allowance are respectfully requested.

Regarding the Rejections under 35 U.S.C. §103

Claims 19-44 were rejected as obvious in view of the combined teachings of Boyle, Zdepski and Carubba, of record. Applicants respectfully traverse the rejections.

The Boyle reference is used for its asserted teachings of storing a set of forward indices. However, as understood by the undersigned, Boyle only discloses that he stores data relating intra-coded reference frame starts to their storage location in the storage subsystem. There is not implication that these are forward indices as implied.

The Zdepski reference has been discussed above, but the Patent Office now appears to interpret Zdepski's Verifier/Fixer 104 as somehow equating to forward and reverse indices. However, it is noted that Zdepski's Verifier/Fixer 104 apparently cannot work by use of indices since Zdepski states that his invention generates fast forward and fast reverse streams which do not "require real time processing of video data, such as index lookups". (see col. 4., lines 36-37) Moreover, there is no teaching of use of any index by the Verifier/Fixer 104 in its description or Figure 4 of Zdepski. In view of this, it would appear that the Verifier/Fixer 104 of Zdepski fails

to use forward and reverse indices as asserted. Moreover, in view of Zdepski's clear view that use of such indices is burdensome, it would appear improper to combine or modify the Verifier/Fixer 104 in any manner to produce any combination that uses forward and reverse indices.

Carrubba appears to only show separate storage of intra-coded and inter-coded for use in presentation of an image in a basic part or a basic part plus a complementary part. Carrubba appears unrelated to trick-play.

Regarding claims 19, 43, 44:

This claim, to paraphrase without intent of limitation, calls for separate storage of inter-coded and intra coded frames in separate files, and storing a set of forward and reverse indices that relate the intra-coded frames to the inter-coded frames to carry out respectively fast forward playback and fast reverse playback. By providing separate storage of intra-coded frames and inter-coded frames, and use of the forward and reverse indices, the amount of storage space is optimized while trick play is simplified.

The proposed combination falls short of meeting the claim requirements at least since none of the art teaches or suggests forward and reverse indices applied to content that is divided into two files of intra-coded and inter-coded files, with forward and reverse indices provided for relating the intra-coded data to the inter-coded data in both the forward and reverse directions as taught and claimed. The proposed combination fails to provide any connection between separate storage of intra-coded and inter-coded frames and use of both forward and reverse indices for trick play.

The Boyle reference fails to teach actual forward indices as asserted, the Zdepski reference explicitly avoids indices in favor of a Verifier/Fixer, and the Carrubba reference divides the intra-coded frames and the inter-coded frames, but appears to have nothing to do with trick play. Hence, a substantial level of modification of the references would appear to be needed and the Office Action provides no "articulated reasoning" adequate to support such level of modification.

The Office Action justifies the combination as being obvious for the “benefit of a more readily accessed and a smoother display of trickplay applications”. However, the Zdepski reference itself condemns the use of indices in lookup tables as being a problem – “a considerable burden ... on the video server” and having “associated bit rate expansion problems” (col. 4, lines 12-16) – thus effectively teaching against use of such indices.

In view of the above, it is submitted that these claims are allowable. Reconsideration and allowance are respectfully requested.

Regarding claim 20:

Claim 20 is believed patentable for the same reasons stated for claim 19, and further it is submitted that there is no teaching or reasoning presented that accounts for generating and storing the indices. Reconsideration and allowance are respectfully requested.

Regarding claims 21, 22, 23, 25, 27:

The above remarks regarding claim 19 is equally applicable. Reconsideration and allowance are respectfully requested.

Regarding claim 24, 26:

The above remarks regarding claim 19 are equally applicable. In addition, it is noted that the cited passage describes use of forward and reverse time order by the Verifier/Fixer – not a set of separately stored forward and reverse indices. Reconsideration and allowance are respectfully requested.

Regarding claims 28-36; 37-42:

The above remarks are equally applicable. Reconsideration and allowance are respectfully requested.

Concluding Remarks

The undersigned additionally notes that many other distinctions exist between the cited

art and the claims. However, in view of the clear distinctions pointed out above, further discussion is believed to be unnecessary at this time. Failure to address each point raised in the Office Action should accordingly not be viewed as accession to the Examiner's position or an admission of any sort. No amendment made was for the purpose of narrowing the scope of any claim unless an argument has been made herein that such amendment has been made to distinguish over a particular reference or combination of references.

Interview Request

In view of this communication, all claims are now believed to be in condition for allowance and such is respectfully requested at an early date. If further matters remain to be resolved, the undersigned respectfully requests the courtesy of an interview. The undersigned can be reached at the telephone number below.

Respectfully submitted,

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MARK-UP

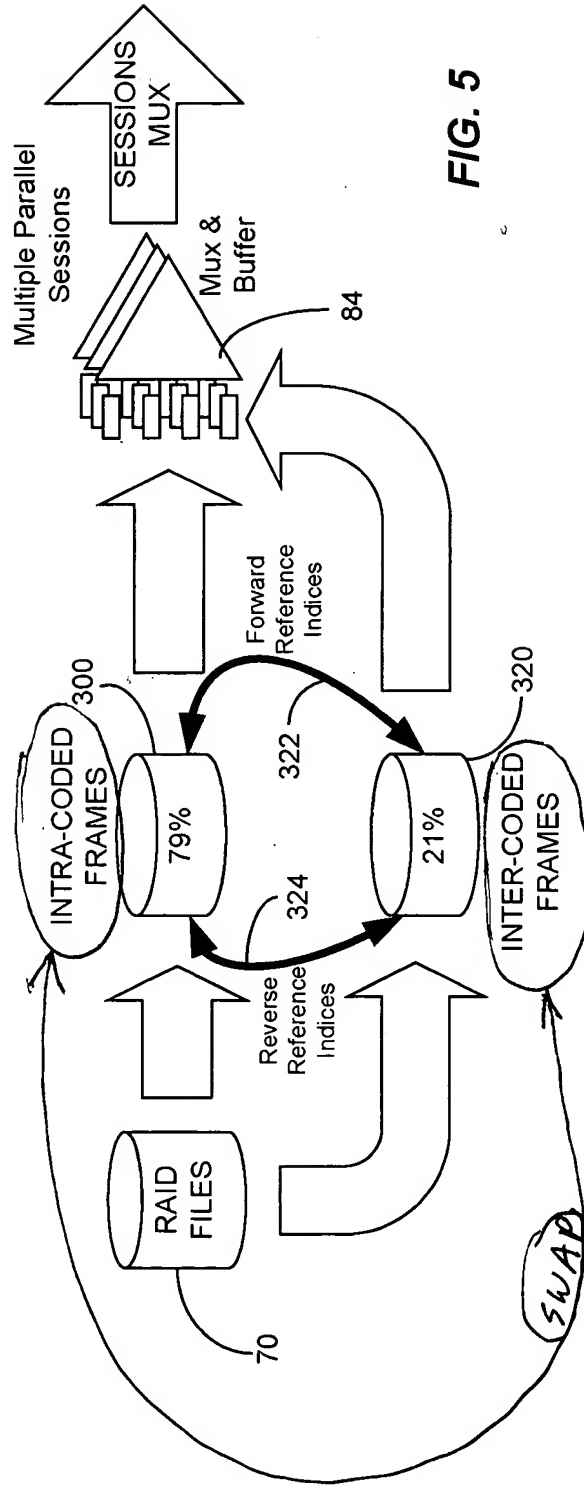


FIG. 5